

HUNGARY

Budapest, A Magyar Tudományos Akadémia V. Orvosi Tudományok Osztályának Kozléményei, Vol XVI, No 2-3, 1965, pages 163-180

pathogenetic relationship between the hemodynamic changes in shock and the development of anuria. Some prophylactic and therapeutic considerations are also discussed. Dibenzylamine, acetyl-diphenyl-propenylamine appear to be promising drugs for the prevention of irreversible shock. After rapid and ample replacement of the lost blood or plasma, the use of these compounds should be attempted instead of noradrenalin. The use of paravertebral novocain block and hypo-thermia are also discussed. 24 Eastern European, 28 Western references. [Manuscript received 25 Jun 65.]

GONORY, A. 1951

(Anat Inst. U. of Pecs.)

"Innervation and Function of the Juxtaglomerular Apparatus of the Kidney."

Kiserl .Orvostud, 1951, 3/4(241-244)
Abst: Exc. Med. 11, Vol. 5, No. 7, p. 827

GOMORY, A. 1951

(Anat. Inst. U. of Pecs.)

"Significance of the Anterior Corpora Quadrigemina Region and the Formation Reticularis of the Anterior Mesencephalon for Position of the Head."

Acta Physiol. Budapest, 1951, 2/2(113-119)
Abst: Exc. Med. 11, Vol. 5, No. 9. p. 1090

LAZARITS, Jeno, dr.; GOMORI, Andras

Treatment of supracondylar humeral fractures in children. *Magy. sebeszet* 7 no.1:40-43 Feb 54.

1. Fovarosí Arpad Kórház sebészeti osztályáról, igazgató-sebészfelelős: dr. Lazarits Jeno.

(HUMERUS, fract.

surg., Kirschner's nailing in child.)

(FRACTURES

humerus, supracondylar, surg., Kirschner's nailing in child.)

GOMORY, Andras, dr.; FRENREISZ, Istvan, dr.

Cured case of penetrating left ventricle injury. Orv. hetil.
97 no.31:864-866 29 July 56.

1. A IV. ker. Fovarosí Karoly Sandor Koskorház Sebészeti
Osztályának (igaz. -sebészfoorvos: Lazarits, Jeno dr.) és
Belgyógyászati Osztályának (foorvos: Frenreisz, Istvan dr.)
közl.

(HEART, wounds & inj.
penetrating knife wound of left ventricle, surg.
& recovery. (Hun))

(WOUNDS AND INJURIES
heart, penetrating knife wound of left ventricle,
surg. & recovery. (Hun))

Gomory, Andras

GOMORY ANDRAS

Method modified by the use of a new instrument for the unification of
2- 3 mm vessels. Magy.sebeszet 10 no.4:257-262 Aug 57.

1. A Budapesti Orvostudományi Egyetem IV. sz. Sebeszeti Klinikájának
közleménye Igazgató: Kudasz József dr. egyetemi tanár.

(BLOOD VESSELS, surg.

unification of small vessels, new method & instruments
(Hun))

GOMORY, Andras, dr.; SZABO, Zoltan, dr.

Puncture of the left ventricle as a diagnostic method in indication for surgery in aortic vita. Orv.hetil. 100 no.52:1886-1887 D '59.

1. A Budapesti Orvostudományi Egyetem IV. sz. Sebészeti Klinikájának (igazgató: Kudasz József dr. egyetemi tanár) közleménye.

(AORTIC STENOSIS diag.)

KAMARAS, Janos, dr.; GOMORI, Andras, dr.; PATAKI, Lenke, dr.; technikai munkatars: BAKOS, Ida

On the significance of preoperative dye dilution curves in auricular septal defects. Gyermekgyogyaszat 12 no.8:238-244 Ag '61.

1. A Budapesti Orvostudományi Egyetem I sz. Gyermekklinikajának (Igazgato: Gegesi Kiss Pal dr. akademikus, egyetemi tanar) es IV sz. Sebészeti Klinikájának (Igazgato: Kudasz Jozsef dr. egyetemi tanar) közlemenye.

(HEART SEPTUM abnorm)

HARKANYI, Istvan, dr.; PAPP, Sandor, dr.; GOMORY, Andras, dr.

Modern methods of the treatment of cardiac arrest. *Magy.sebeszet*
14 no.1:45-51 F '61.

1. A Budapesti Orvostudományi Egyetem IV. sz. Sebészeti Klinika-
jának közleménye Igazgató: Kúdasz József dr. egyetemi tanár.
(HEART ARREST ther)
(RESUSCITATION)

LOBLOVICS, Ivan, dr.; GOMORY, Andras, dr.; HUSVETI, Andor, dr.; KUDASZ,
Jozsef, dr.; LENCZ, László, dr.; MARKOS, Gyorgy, dr.; PAPP, Sandor, dr.;
SZABO, Zoltan, dr.; SZANTO, Katalin, dr.

Data on the organization of preoperative preparation in surgery performed with extracorporeal circulation. Magy. sebeszet 14 no.6:337-343 D '61.

1. A Budapesti Orvostudományi Egyetem IV sz. Sebeszeti Klinikájának közleménye.

(HEART MECHANICAL)

PAPP, Sandor, dr.; GOMORY, Andras, dr.; HUSVETI, Sandor, dr.; KUDASZ, Jozsef, dr.; LENCZ, Laszlo, dr.; LOBLOVICS, Ivan, dr.; MARKOS, Gyorgy, dr.; SZABO, Zoltan, dr.; SZANTO, Katalin, dr.

Management of patients during the first 24 hours after the use of extracorporeal circulation. Magy. sebeszet 14 no.6:343-350 D '61.

1. A Budapesti Orvostudományi Egyetem IV sz. Sebészeti Klinikájának közleménye Igazgató: Kudasz József dr. egyetemi tanár.

(HEART MECHANICAL)

PAPP, Sandor, dr.; RANKY, Laszlo, dr.; GOMORY, Andras, dr.

Spontaneous gangrene of the extremity in a child. Orv. hetil. 102
no.13:609-611 26 Mr '61.

1. Budapesti Orvostudományi Egyetem, IV Sebészeti Klinika.

(LEG dis) (GANGRENE in inf & child)

KUDASZ, Jozsef, dr.; GOMORY, Anadras, dr.; HUSVETI, Sandor, dr.; LENCZ, Iaszlo, dr.; LOBLOVICS, Ivan, dr.; MARKOS, Gyorgy, dr.; PAPP, Sandor, Dr.; SZABO, Zoltan, dr.; SZANTO, Katalin, dr.

Experience with extracorporeal circulation in 1st 10 intracardiac operations. Orv. hetil. 102 no.48:2263-2268 26 N '61.

1. Budapesti Orvostudományi Egyetem IV Sebészeti Klinika.

(HEART MECHANICAL)

KAMARAS, J.; GOMORI, A.; PATAKI, L.; technische mitarbeit: BAKOS, I.

On the preoperative and postoperative importance of dye dilution curves in auricular septal defect. Cor Vasa 4 no.1:72-81 '62.

1. I Kinderklinik und IV. Chirurgische Klinik der Medizinischen Universität, Budapest.

(HEART SEPTUM abnorm)

(HEART CATHETERIZATION)

SZABO, Zoltan, dr.; GOMORY, Andras, dr.; HUSVETI, Sandor, dr.; KUDASZ, Jozsef, dr.;
LENCZ, Laszlo, dr.; LOBLOVICS, Ivan, dr.; MARKOS, Gyorgy, dr.; PAPP,
Sandor, dr.; SZANTO, Katalin, dr.

Intra- and postoperative complications in surgery performed under
extracorporeal circulation. Orv. hetil. 103 no.14:638-643 Ap '62.

1. Budapesti Orvostudományi Egyetem, IV Sebészeti Klinika.

(HEART MECHANICAL)

GOMORY, I.; RADO, R.

Conference on chemical changes of polymers. Chem prum 13 no.1:
54-55 Ja '63.

1. Vyskumny ustav kablov a izolantov.

45347-66 EWP(j) RM

ACC NR: AT6033614

SOURCE CODE: HU/2502/65/043/002/0231/0236

AUTHOR: Foldesi, Istvan--Fel'deshi, I. (Doctor; Budapest); Gomory, Pal--Gemerl, P. (Budapest)

ORG: [Foldesi] Institute of General and Inorganic Chemistry, Eotvos Lorand University, Budapest (Eotvos Lorand Tudományegyetem, Általános és Szervetlen Kémiai Intézet); [Gomory] Research Group for Inorganic Chemistry, MTA, Budapest (MTA, Szervetlen Kémiai Kutatócsoport)

TITLE: Alkylation with organopotassium compounds

SOURCE: Academia scientiarum hungaricae. Acta chimica, v. 43, no. 2, 1965, 231-236

TOPIC TAGS: alkylation, organomercury compound

ABSTRACT: Isopropylpotassium was prepared from diisopropylmercury with a K-Na alloy. The alkylating properties of the compound were examined with carbon dioxide and with compounds containing -Si-Cl and -Sn-Cl bonds. In petroleum ether the isopropyl group, in benzene the phenyl group was introduced successfully. An S_N1 mechanism was followed by the alkylation reaction. Orig. art. has: 1 figures. [Orig. art. in Eng.] [JPRS: 33,540]

SUB CODE: 07 / SUBM DATE: 29Jun64 / OTH REF: 019

Card 1/1 *LL*

POCHTOVIK, G. Ya., inzh.; DOBROVOL'SKIY, A.S., student; LITVIN, F.N.,
student; GOMOROV, V.G., student.

Using precast reinforced keramzit-concrete slabs in constructing
bridge floors. Avt. dor. 23 no.4:14-16.Ap '60. (MIRA 13:6)
(Bridges, Concrete)

GOMOROV, V.Ye.

"Alyoha" plum as raw material for canning. Kons.i ov.prom. 17
no.9:25-27 S '62. (MIRA 15:8)

1. Dagestanskaya opytnaya stantiya plodovo-yagodnykh kul'tur.
(Daghestan--Plum) (Fruit, Canned)

MARKOS, Gyorgy, dr.; GOMORY, Andras, dr.; HUSVETI, Sandor, dr.; KUDASZ, Jozsef, dr.; LENCZ, Laszlo, dr.; LOBLOVITS, Ivan, dr.; PAPP, Sandor, dr.; SZABO, Zoltan, dr.; SZANTO, Katalin, dr.

Blood coagulation regulation during extracorporeal circulation with protamine sulfate titration. Orv. hetil. 102 no.50:2366-2367 10 D '61.

1. Budapesti Orvostudományi Egyetem, IV sz. Sebészeti Klinika.

(BLOOD COAGULATION) (HEART MECHANICAL)
(SULFATES)

KUDASZ, Jozsef, dr.; KUNOS, Istvan, dr.; SZABO, Zoltan, dr.;
GOMORY, Andras, dr.; LUDVAN, Sandor, dr.; CSETE, Bela, dr.

Treatment of complete atrio-ventricular block, caused by acute
rheumatic carditis, with implanted pacemaker. Orv. hetil. 104
no.51:2415-2417 22 D '63.

1. Budapesti Orvostudományi Egyetem, IV Sebészeti Klinika,
Szív- és Érszövet és Mohácsi Városi Tanács Kórháza.

(RHEUMATIC HEART DISEASE) (HEART BLOCK)
(PACEMAKER, ARTIFICIAL) (ELECTROCARDIOGRAPHY)
(THORACIC RADIOGRAPHY)

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APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000515930006-2"

GOMORY IVAN
CZECHOSLOVAKIA/Electricity - Dielectrics

G-2

Abs Jour : Ref Zhur - Fizika, No 1, 1958, 1254
Author : Gomory Ivan, Bist'an Ernest, Mlejnek Otakar, Stinzel Jan
Inst :
Title : Connection Between Thermal Stability and Chemical Structure
of Dielectrics.
Orig Pub : Strojní elektrotechn. časop., 1957, 8, No 1, 10-17
Abstract : A survey of data on the dependence of the thermal stability of high molecular organic dielectrics and their chemical structure. The authors discuss briefly the structural variations that occur upon heating, and give ideas concerning the degree to which they depend on the individual elements of the structure.

Card 1/1

Z/009/63/000/001/006/006
E112/E435

AUTHORS: Gömöry, I., Rado, R.

TITLE: Chemical modification of polymers

PERIODICAL: Chemický průmysl, no.1, 1963, 54-55

TEXT: This conference, organized jointly by ČSAV (Czechoslovak AS) - oddelenie polymérov SAV (Department of Polymers SAS), Chemická fakulta Slovenskej vysokej školy technickej (Chemistry Division of the Slovak Technical High School) and Cable and Insulating Materials Research Institute, was held in Smolenice from 12 - 15 September 1962. The conference was attended by 70 Czechoslovak and 35 foreign experts. The programme was divided into 2 sections: Section I - New methods for the production of graft and end-to-end polymers, introduced by Professor Rogovin, Moscow. The individual papers are not listed. Discussions, generally, ranged over the following fields: principles of graft polymerisation by irradiation of vinylacetate on polymethacrylate and styrene, methylmethacrylate on polytetrafluoroethylene and polyvinyl alcohol; modification of rubber, polypropylene and polymethylmethacrylate by graft and end-to-end copolymerisation; Card 1/2

Chemical modification ...

Z/009/63/000/001/006/006
E112/E435

structural chemical modifications of homopolymers, such as isomerisation of natural rubber, cyclisation of polydienes, mechano-chemical degradation of cellulose, degradation of polypropylene by γ -rays, controlled degradation of isotactic polypropylene by the action of benzoyl peroxide.

Section II - Mechanism of thermo-oxidative degradation and stabilisation of polymers, introduced by Professor Neiman (USSR). The following subjects were discussed. Physico-chemical methods (paramagnetic resonance, mechanical relaxation spectra) for the study of degradation phenomena; syntheses and properties of stabilisers; preparation of polymers capable of producing stabilising effects; oxidative degradation of individual polymers, such as polypropylene, polyvinylchloride and natural and synthetic rubber; recent investigations into the degradation of polyesters, poly-trifluorochlorethylene, styrene-divinyl-benzene copolymers, polychloropropene and polycaprolactam.

ASSOCIATION: VU kablov a isolantov (Cable and Insulating Materials Research Institute)

Card 2/2

21716

158116

2209

H/005/60/000/002/002/002
B124/B207

AUTHORS:

Török, Ferenc and Gömöry, Pál

TITLE:

The preparation of highmolecular dimethyl polysiloxanes suited for silicone rubber production, by means of basic catalysts

PERIODICAL:

Magyar Kémiai Folyóirat, no. 2, 1960, 70-73

TEXT: Polydimethyl siloxane which is the initial product for the preparation of silicone rubber, is mostly obtained by polymerization of octamethyl cyclotetrasiloxane (D_4), hexamethyl cyclotrisiloxane (D_3), and decamethyl cyclopentasiloxane (D_5), respectively. In the course of this process long chain molecules are formed from low-molecular cyclic molecules. The present study concerns the both theoretically and practically important question as to the factors on which the molecular weight of the polymeryzate obtained by means of basic catalysts depends. Potassium hydroxide was used as catalyst, i.e., solid KOH with 2.1 % K_2CO_3 and 11 % H_2O , as well as $KOH(C_3H_7OH)_x$ (Ref. 13: French Patent No. 1017582) and $KO[(CH_3)_2SiO]_xK$ (Ref. 6: U. S. Patent No. 2453092; Ref. 8: U. S. Patent No. 2561110;

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Ref. 10: U. S. Patent No. 2634284), respectively. Polymerization was carried out in a sulfonation flask in the oil bath, the flask being rinsed with CO₂ and anhydrous hydrogen gas. For the mean molecular weight of dimethyl polysiloxanes the relation (Ref. 14: A. J. Barry: J. Appl. Phys., 17, 1020, 1946): $[\eta] = 2 \cdot 10^{-4} M^{0.66}$ (1) holds. An Ostwald viscosimeter whose outflow time was 319.6 seconds for toluene, was used for measurement. Polymerization leads always to equilibrium, no matter which catalyst is used. Table 1 lists the results of some typical experiments, Fig. 1 the change of the molecular weight with time. The experiments were conducted at 150°C and a catalyst ratio of K/Si equal to $1.4 \cdot 10^{-3}$. If KOH is used, the process is mostly initiated after one hour, sometimes even later; with KOH(C₃H₇OH)_x as well as potassium silanolate, polymerization it starts earlier. The curve of the former, however, has a break and the molecular weight increases somewhat after approximately two hours. In the presence of D₃ and KOH, rapid polymerization sets in immediately which, in contrast to D₄, initially proceeds under heat evolution. The equilibrium molecular weight depends on the purity of D₃ and/or D₄ and the K/Si ratio. If the KOH(C₃H₇OH)_x catalyst is used, the molecular weight is

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always lower under otherwise equal conditions. The function between the equilibrium molecular weight and the ratio K/Si was studied with the help of potassium silanolate. Table 2 lists the results; Fig. 2 (Curve 1) shows the dependence of the molecular weight of $K/Si \cdot 10^4$. The molecular weight increases with decreasing K/Si ratio which conforms that a linear molecule is concerned whose chains are terminated by K. On the basis of the paper by D. W. Scott (Ref. 21: J. Amer. Chem. Soc., 68, 2294, 1946), the following equations are written down: $m = 2 Ap^2/(1-p)$; $d = Ap^3/(1-p)^2 + [44(0.40p)^4 - 33(0.40p)^3]/(1-0.40p)^2$ (3), where A and p denote the constants characteristic of the given dosage, m, the concentration of the monofunctional units, and d that of the bifunctional units in mole/l. The following equation holds for the total number of moles per liter (1): $i = Ap^2/(1-p) + [11(0.40p)^4]/(1-0.40p)$ (4). These equations indicate that at $K/Si \cdot 10^4 = 13.2$, the mean numerical molecular weight equals to 2022 and, at $K/Si \cdot 10^4 = 1.32$ it is equal to 2046. These values deviate considerably from the molecular weights calculated from the viscosity number. From Eq. (3) it can be seen that in the first case the

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number of units D occurring in the cycles equals 20.05 % and in the latter case 20.26 % of the total number. On the assumption that 79.9 % of the total units D in the K/Si region studied, are in linear molecules, the numerical mean molecular weight of the linear molecules can be determined (see Fig. 2, curve 2). On the basis of the paper by B. Lengyel, A. Prékopa, and F. Török (Ref. 22: Z. physik. Chem., 206, 161, 1956) the relation $M_n = 94.2 + 74 (N/L)$ (5) was derived for the mean numerical molecular weight in equilibrium state; this relation is in complete agreement with the Flory equation (Ref. 23: P. Flory: J. Amer. Chem. Soc., 58, 1877, 1936) and interpreted by means of curve 3 in Fig. 2. The relation $M_v:M_n = [(1+a) \cdot \Gamma(1+a)]^{1/n} : 1$ (6); $M_v = 1.841 \cdot M_n$ holds for the numerical mean molecular weight and for the mean molecular weight M_v determined from the viscosity index. Curve 4 (Fig. 2) lists the values for M_v obtained at different K/Si ratios. In conclusion, it may be said that the polymerization of low-molecular cyclic dimethyl polysiloxanes by means of basic catalysts is a process leading to equilibrium; the equilibrium molecular weight is determined by the purity of the material and the relative amount of catalyst. M. G. Voronkov (Ref. 17: Materialy

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B124/B207

The preparation of...

tekhnicheskikh soveshchaniy (Materials for Technical Information), no. 1, 229, 1958) is listed. The authors thank the Director of the Nitrokémiai Ipartelepek (Nitrochemical Industrial Plants) for providing the experimental material. There are 2 figures, 2 tables, and 23 references: 2 Soviet-bloc and 21 non-Soviet-bloc. The two references to English-language publications read as follows: W. T. Grubb, R. C. Osthoff: J. Amer. Chem. Soc., 77, 1405, 1955; E. H. Aggarwall, S. H. Bauer: J. Chem. Phys., 18, 42, 1950.

ASSOCIATION: Budapest, Eötvös Loránd Tudományegyetem Általános és Szervetlen-Kémiai Intézete (Institute of General and Inorganic Chemistry of the Loránd Eötvös University, Budapest)

SUBMITTED: May 13, 1959

Card 5/8

X

23889

15 9120

2209 1526, MSI

H/005/61/000/008/002/004
D232/D304

AUTHORS: Gömör, Pál and Török, Ferenc

TITLE: Examination of factors determining the properties of silicone rubber for cold vulcanizing

PERIODICAL: Magyar kémiai folyóirat, no. 8, 1961, 346-349

TEXT: The article deals with the vulcanizing properties of silicone rubber and describes experiments carried out by the authors for determining the factors affecting the vulcanization rate and the physical properties of vulcanized rubber. At the 1958 silicone conference in Leningrad, Soviet scientists presented the results of their research on dimethyl polysiloxane with Si-CH bond. They established that the effectiveness of the $R_2Sn(OCOR')_2$ accelerators depends on the number of carbon atoms in R and R' radicals, i.e. the lower the number of carbon atoms in the alkyl radical, the greater the activity of the accelerator. For their experiments, the authors used linear dimethyl polysiloxane manufactured by the Nitrokémia ipartelegék kutató laboratóriuma ("Nitro-Card 1/3

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Examination of factors...

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kémia" Research Laboratory). Tetra-ethoxysilane and silicone oil with Si-H bond were used as vulcanizing agents, and "aerosil" (SiO_2), "Celite Superfloos" (infusorial earth) and $\gamma\text{-Al}_2\text{O}_3$ produced by the Timföldgyár (Alumina Plant) in Almásfüzitő as fillers. Dibutylene dilaureate, produced by the Deutsche Advance Production GmbH [Abstracter's note: No further data given], was used as accelerator. The vulcanization process was examined with a Höppler consistometer. According to data shown in tabulated form, the vulcanization rate can be controlled with the quantity of the vulcanizing agent and accelerator used, and it decreases with the increase of the molecular weight of dimethyl polysiloxane. Table 4 shows the vulcanization rate of different vulcanizing agents.

4. táblázat

Vulkanizáló anyag	Vulkanizációs idő
$\text{Si}(\text{OC}_2\text{H}_5)_4$	1,5 perc
$\text{Si}(\text{OC}_3\text{H}_7)_4$	6 perc
$\text{Si}(\text{OC}_4\text{H}_9)_4$	>48 óra
$\text{Si}(\text{OC}_6\text{H}_{13})_4$	19 perc

Table 4

A. Vulcanizing agent
B. Vulcanizing rate

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D232/D304

There are 4 tables, 1 figure and 5 references: 1 Soviet-bloc and 4 non-Soviet-bloc. The references to the English-language publications read as follows: Material and Methods, 39, 233, 1954; Indian Rubber World, 139, 112, 1954.

ASSOCIATION: Eötvös Loránd tudományegyetem általános- és Szervetlen-kémiai tanszéke (Department of General and Inorganic Chemistry of the "Eötvös Loránd" University of Sciences) Budapest.

SUBMITTED: December 27, 1960

Card 3/3

GCMORY, Pal

An account of my study trip to the Soviet Union. Kem tud kozl
20 no.3:416-418 '63.

1. Eotvos Lorand Tudomanyegyetem Altalanos es Szervetlen
Kemiai Tanszeke, Budapest.

GOMORYOVA, A., ing.

Paper chromatographic determination of formic and acetic acids.
Acta chimica Hung 33 no.3:251-256 '62.

1. Research Institute for Cable and Insulator Materials,
Bratislava, Tovarenska 12, Czechoslovakia.

S/112/60/000/006/018/032

Translation from: Referativnyy zhurnal, Elektrotehnika, 1960, No. 6, p. 272,
4.5034

AUTHOR: Gomoyunov, K. K.

TITLE: The Influence of the Front Duration of the Timing Pulse on the
Work of Ferrite-Diode Circuits

PERIODICAL: Nauchno-tekhn. inform. byul. Lenigr. politekh. in-t, 1959, No. 1,
pp. 58-65

TEXT: γ The process of magnetic polarity reversal of a toroidal ferrite core with a square hysteresis loop under the effect of the timing current pulse is analyzed. The equivalent circuit of a loaded transformer is used, the stray parameters being neglected. The extremum of the hysteresis loop is approximated by a parallelogram. From the condition of the maximum signal-to-noise ratio a criterion for choosing the optimum front duration of the timing pulse is found: $T_g \ll t_f \ll T_1$, where t_f - front duration of the timing pulse, T_g - time constant of the core corresponding to the flat arm of hysteresis loop, T_1 - time constant corresponding to the steep arm of hysteresis loop. A method of calculating the equivalent resistance of hysteresis losses is given. There are 10 illustrations, 6 references.

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I. S. I.

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S/194/61/000/007/071/079
D201/D305

9.3280

AUTHORS: Artym, A.D., Gomoyunov, K.K. and Kozhevnikov, A.N.
TITLE: A shift-pulse reactance generator with a thyatron commutator
PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 7, 1961, 33, abstract 7 K195 (Nauchno-tekhn. inform. byul. Leningr. politekhn. in-t, 1960, no. 3, 3-12)

TEXT: Theoretical and experimental analysis has been made of a circuit generating shift current pulses of magnetic elements. The circuit consists of a capacitor C charged through a diode and an inductance L_1 from a d.c. source, the resonant frequency of the circuit formed by L_1 and C being equal to the shift pulse repetition frequency. C discharges through an inductance L_2 , connected in series with the discharge thyatron and the load, the resonant frequency of the L_2 -C circuit being determined by the required duration of

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A shift-pulse reactance generator...

the shift pulse. Special circuit is used for stabilizing the load current within very wide limits. The circuit shunts L_1 when C charges to a pre-determined value of voltage. The experiment has proved the correctness of basic assumptions obtained in the theoretical analysis of the circuit. 4 references. [Abstracter's note: Complete translation]

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Card 2/2

SNORYGIN, Andrey Pavlovich; KRAKAU, T.K., dots., retsenzents;
GOMOYUNOV, K.K., retsenzents; DANILOVA, V.V., red.

[Magnetic elements of computers] Magnitnye elementy vychislitel'nykh mashin. Moskva, Vysshaia shkola, 1965.
335 p. (MIRA 18:11)

1. Leningradskiy politekhnicheskii institut im. M.I.Kalinina (for Krakau). 2. Kafedra inzhenernoy elektrofiziki Moskovskogo energeticheskogo instituta im. Molotova (for Gomoynov).

GOMOYUNOV, Konstantin Konstantinovich; KRAKAU, T.K., red.

[Digital components; manual for a course in "Elements of digital devices"] Elementy diskretnogo deistviia; uchebnoe posobie po kursu "Elementy ustroistv diskretnogo deistviia". Leningrad, Leningr. politekhn. in-t im. M.I.Kalinina, 1965. 270 p. (MIRA 18:12)

GOMOYUNOVA, M.V.

Temperature dependence of the secondary electron emission
coefficient of NaCl films. Zhur. tekhn. fiz. 28 no.11:2473-2475

N '58.

(MIRA 12:1)

(Electron emission) (Salt)

GOMUYUNOVA, M.V.

Secondary electron emission from NaCl films. Fiz. tver. tela 1 no.2:
315-328 F '59. (MIRA 12:5)

1. Leningradskiy fiziko-tekhnicheskiy institut.
(Salt) (Electron emission)

GOMOYUNOVA, M.V.

Reflection of electrons and secondary electron emission from
NaCl films. Fiz. tver. tela 1 no.2:329-339 P '59.

(MIRA 12:5)

1. Leningradskiy fiziko-tekhnicheskiy institut.
(Salt) (Electron emission)

SOLOVYUNOVA, M.V. "Card Phys-math Sci (diss) "Secondary electron
emission of NaCl layers." Leningrad, 1960, 14 pp (Leningrad Poly-
technical institute im M. I. Kalinin) (KL, 34-80, 119)

81779

S/181/60/002;02/23/033
B006/B067

9-3120

AUTHORS: Gomoyunova, M. V., Ivanov, G. A.

TITLE: The Role of Electrons Inelastically Reflected From Various Backings in the Secondary Electron Emission of Thin NaCl Films

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 2, pp. 319-330

TEXT: The authors intended to investigate experimentally the portion of reflected electrons in the secondary electron emission of NaCl, and to estimate this portion by means of experimental data and by investigating the influence of the coefficients of inelastic reflection η of the backings on the properties of secondary emission of films of variable thickness. The device used is schematically represented in Fig. 1 and described in detail. The measurements were made by the method of single pulses (pulse duration: 20-30 μ sec). The primary electron current in the pulse was $10^{-8} - 10^{-7}$ a. The salt layer examined was produced by successive sputtering onto a backing at room temperature. $d(U_p)$ and $\eta(U_p)$ were

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The Role of Electrons Inelastically Reflected S/181/60/002/02/23/033
From Various Backings in the Secondary Electron B006/B067
Emission of Thin NaCl Films

measured after each sputtering, and the resulting families of curves were entered in diagrams (Figs. 2-8). Fig. 2 shows $\sigma(U_p)$ for platinum, graphite, and the NaCl layers sputtered upon them whose thickness increased. Fig. 3 shows the same for $\eta(U_p)$; Figs. 4 and 5 show $\sigma(U_p)$ and $\eta(U_p)$, respectively, for platinum, copper, and the NaCl layers mentioned; Figs. 6 and 7 show these curves for aluminum, graphite, and the NaCl layers. Finally, Fig. 8 shows the dependence of the thickness of σ and η on NaCl sputtered upon platinum and graphite backings with $U_p = 3500$ ev. The results are discussed next. It was experimentally observed that the $\sigma(U_p)$ -curves measured on thick NaCl films of NaCl layers simultaneously sputtered onto various backings at room temperature practically coincide and are close to those obtained for NaCl single crystals. The same holds for $\eta(U_p)$ -curves at high U_p . The coefficients of secondary electron emission differ only for such pairs of backings as have different η . A maximum difference can be observed in such films of given thickness,

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The Role of Electrons Inelastically Reflected S/181/60/002/02/23/033
From Various Backings in the Secondary Electron B006/B067
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whose backings show the largest difference in η . At high U_p , given pairs of backings do not differ in secondary electron emission as long as the η -values differ with varying thickness. Summing up: 1) As a result of the participation of reflected electrons in the excitation of slow secondary electrons, the η -value of the backing influences the secondary emission properties of thin films essentially. 2) The quantitative estimation of the portion of true secondary electrons excited by reflected ones in the total number of true secondary electrons (made for a special case: $d \simeq 100 \div 150 \text{ \AA}$, $U_p = 3500 \text{ ev}$) showed that this portion depends essentially on the presence of inelastically reflected electrons. In conclusion, the authors thank L. N. Dobretsov for having conducted the work; T. L. Matskevich, I. M. Bronshteyn, and R. B. Segal' are mentioned. There are 10 figures, 1 table, and 8 references: 5 Soviet, 2 German, and 1 American.

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81779
The Role of Electrons Inelastically Reflected
From Various Backings in the Secondary Electron S/181/60/002/02/23/033
Emission of Thin NaCl Films B006/B067

ASSOCIATION: Fiziko-tekhnicheskii institut AN SSSR Leningrad
(Physicotechnical Institute of the AS USSR, Leningrad)

SUBMITTED: May 19, 1959

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Card 4/4

GOMOYUNOVA, M.V.

Role of reflected electrons in secondary electron emission.
Fiz. tver. tela 3 no.8:2318-2321 Ag '61. (MIRA 14:8)

1. Fiziko-tekhnicheskii institut im. A.F. Ioffe AN SSSR,
Leningrad.
(Secondary electron emission)

GOMOYUNOVA, M.V.

Secondary electron emission from KBr films. Fiz. tver tela 5 no.9:
2538-2543 S '63. (MIRA 16:10)

1. Fiziko-tekhnicheskiy institut im. A.F.Ioffe AN SSSR, Leningrad.

ACCESSION NR: AP5005272

5/0181/65/007/002/0387/0393

AUTHOR: Gomonovova, M. V.; Letunov, N. A.

22

calculating the coefficient of inelastic scattering to include complex compounds,
introducing the concept of an element that is equivalent to the general case.

"APPROVED FOR RELEASE: 06/13/2000

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FILE 00110000. The experimental results show good agreement with the calculations

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very similar to the variation of the density of the ~~medium~~ with this effective mass number is

9648-66 EWT(1)/EWT(m)/EWP(t)/EWP(b)/EWA(m)-2 IJP(c) JD/JG/AT

ACC NR: AP5025377 SOURCE CODE: UR/0181/65/007/010/2995/3002 47

44,55 44,55

AUTHOR: Gomoyunova, M. V.; Letunov, N. A. 21

44,55

ORG: Physicotechnical Institute im. A. F. Ioffe AN SSSR, Leningrad (Fiziko-tekhni-cheskiy institut AN SSSR)

TITLE: Energy spectra of fast secondary electrons emitted by alkali halide compounds

SOURCE: Fizika tverdogo tela, v. 7, no. 10, 1965, 2995-3002 27

21, 44, 55

TOPIC TAGS: alkali halide, secondary electron emission, spectral energy distribution

ABSTRACT: Curves are plotted for the current of fast secondary electrons as a function of counter-potential in fifteen different alkali halide compounds. The form of the energy spectrum for the secondary electrons is used as a basis for a more than usually precise division of these particles into true secondary electrons and elastically and non-elastically reflected primary electrons. The specimens were vacuum-vaporized alkali halide films. The instrument used for the measurements was based on a quasispherical condenser with a suppressor grid. A block diagram and explanation of the equipment is given. Energy curves for secondary emission from alkali halides show three sections as in the case for metals. In the low energy region, there is a reduction in the number of secondary electrons as their energy increases. The intermediate section of the curve corresponds to energies where the number of fast second-

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2.

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ACC NR: AP5025377

ary electrons is approximately independent of their energy. This region becomes narrower as the effective atomic number increases. The nature of the third section is considerably dependent on Z_{eff} at least for counter-potentials greater than 50-60% of the accelerating voltage. For compounds with low effective atomic numbers (LiF), an increase in electron energy is accompanied by a reduction in the number of electrons. The situation is the reverse for $Z_{\text{eff}} > 15$. This phenomenon is the most characteristic singularity for the energy curves of these compounds. The experimental data are used for calculating new values for the coefficient of inelastically reflected electrons which are 30-40% lower than the ordinarily used values. In conclusion we thank L. N. Dobretsov, in whose laboratory the work for this paper was done, for discussing this article, and also Ye. A. Kisleva who prepared some of the alkali halide salts which were studied. Orig. art. has: 6 figures, 2 formulas, 2 tables.

SUB CODE: 07,20/

SUBM DATE: 28Apr65/

ORIG REF: 006/

OTH REF: 005

CC
Card 2/2

CHEREpanov, A.J.; NOVIKOV, S.I.; GOMOYUNOVA, N.P.

Effect of insecticidal aerosols produced by the TDA generator
on Arthropoda in pine stands. Trudy Biol. inst.Sib.otd.AN SSSR
no. 10:141-151 '63. (MIRA 17:5)

CHEREPA NOV, A.I.; GOMOYUNOVA, N.P.

Use of nettings impregnated with diethylamide of meta-toluic acid
for individual protection of humans against horseflies and
mosquitoes. Med. parazit i parazit. bol 32 no.3:341-343 My-Je'63
(MIRA 17:3)

1. Iz Biologicheskogo instituta Sibirskogo otdeleniya AN SSSR
(dir. instituta - prof. A.I. Cherepanov).

VIOLOVICH, N.A.; GOMOYUNOVA, N.P.

Fauna and ecology of horseflies (Diptera, Tabanidae) of the steppe
zone of Western Siberia. Izv. SO AN SSSR no.12 Ser. biol.-
med. nauk no.3:111-116 '64. (MIRA 18:6)

1. Biologicheskiy institut Sibirskogo otdeleniya AN SSSR,
Novosibirsk.

GOMOYYU, Marian-Trayan [Gomoiu, Marian-Traian]

Studies on the sponges in the western part of the Black Sea.
Rev biol 8 no.3:345-355 '63.

1. Institut biologiei in- Tr. Sevulesku Akademii RNR
Okeanologicheskaya laboratoriya g. Konstantza.

GOMOZA, M.S.; GEMZER, M.S.; DYKOVA, V.N.; SILEROV, V.F.; FADAYEV, V.M.;
SEKOROKHOV, V.N.; KUTAYEV, I.A.; KIRISHICHEV, I.K.

Finding and removing the causes of defects at points of decrease
in knitting cotton stockings. Leg. prom. 17 no.7:43-47 JI '57.

(MIRA 10:9)

(Hosiery, Cotton)

GOMZHIN, G.N.

Prepare for construction in Western Siberia in good time. Stroi.
truboprov. 8 no.6:13 Je '63. (MIRA 16:7)

1. Trest Tatnefteprovodstroy, Kazan'.
(Siberia, Western--Pipelines--Design and construction)

GOMZHIN, G.N., inzh.

Assembly-line technology in the construction of reinforced
concrete tanks. Stroil. truboprov. 7 no.1:19-20 Ja '62.
(MIRA 16:7)

1. Trest Tatnefteprovodstroy, g. Kazan'.
(Tanks) (Reinforced concrete construction)

GOMOZOV, D. G., Candidate Agric Sci (diss) -- "The principle of developing field fodder, and hemp crop rotation on the kolkhozes of Orel Oblast". Voronezh, 1959. 24 pp (Min Agric RSFSR, Voronezh Agric Inst), 150 copies (KL, No 24, 1959, 145)

GOMOZOV, I.

Labor Protection Day. Vest.prom.i khud.promys. 2 no.7:24 J1
'61. (MIRA 15:1)

1. Sekretar' Tul'skogo oblastnogo komiteta profsoyuza rabochikh
mestnoy promyshlennosti i kommunal'nogo khozyaystva, g. Tula.
(Tula--Trade unions) (Industrial safety)

KOGAN, I.Ya., kandidat tekhnicheskikh nauk; GOMOZOV, I.M., inzhener.

The incline of mobile tower cranes. Mekh.stroi. 10 no.7:3-6 J1 '53.
(MLRA 6:7)
(Cranes, derricks, etc.)

GOMOZOV, I. M.

"Investigation of the Caterpillar Equipment of High-Power Excavators for the Purpose of Improving Their Design and Construction." Cand Tech Sci, Moscow Order of Labor Red Banner Construction Engineering Inst, imeni V. V. Kuybyshev, Min Higher Education USSR, Moscow, 1955. (KL, No 14, Apr 55)

SO: Sum. No. 704, 2 Nov 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (16).

GOMOZOV I.M.

DOLGOLENKO, Anatoliy Aleksandrovich, doktor tekhnicheskikh nauk, professor; RUDENKO, N.F., professor, doktor tekhnicheskikh nauk, retsenzent; VAYNSON, A.A., dotsent, kandidat tekhnicheskikh nauk, retsenzent; GOMOZOV, I.M., kandidat tekhnicheskikh nauk, retsenzent; GOKHBERG, M.M., redaktor; VOLCHOK, K.M., tekhnicheskiiy redaktor

[Hoisting and conveying machines] Pod'emno-transportnye mashiny. Izd. 3-e, perer. Leningrad, Izd-vo "Rechnoi transport," 1956. 379 p. (MIRA 10:3)

(Hoisting machinery) (Conveying machinery)

GOMOZOV, I.M., kand.tekhn.nauk; MAKAROV, R.A., kand.tekhn.nauk

Investigating the pressure distribution in supporting jacks of
the EGL-15 excavator. Stroi.i dor.mashinostr.2 no.9:7-10 S '57 (MIRA 10:11)
(Hydraulic jacks) (Excavating machinery)

GOMOZOV, I.M., kand. tekhn. nauk

New excavating machinery. Stroi. i dor. mashinostr. 2 no.12:3-6
D '57. (MIRA 11:2)

(Excavating machinery)

PANKRATOV, S.A., doktor tekhn. nauk; GOMOZOV, I.M., kand. tekhn. nauk

Designing and investigating the durability of the KKG-8
rock excavator buckets. Stroitel. mashinostr. 3 no.10:7-11
0 '58. (MIRA 11:11)

(Excavating machinery)

GOMOZOV, I.M., kand. tekhn. nauk

Operating conditions of brake and friction devices used in
excavators. Sbor. trud. MISI no. 26:124-145 '58. (MIRA 12:1)
(Excavating machinery)

GOMOZOV, I.M., kand. tekhn. nauk

Experimental investigation of caterpillar drive equipment
used in heavy-duty shovels. Sbor. trud. MISI no. 26:177-197
'58. (MIRA 12:1)
(Excavating machinery) (Caterpillars (Vehicles)--Testing)

GOMOZOV, I.M., kand. tekhn. nauk

Distribution of loads on supporting jacks used in single-bucket
shovel excavators having four supports. Sbor. trud. MISI no. 26:
227-246 '58. (MIRA 12:1)

(Excavating machinery)

GOMOZOV, I.M., kand. tekhn. nauk.

Investigating the performance and designing bottom and caterpillar
frames for the EQL-15 excavator. Stroi. i der. mashinostr. 4 no.1:
22-25 Ja '59. (MIRA 12:1)
(Excavating machinery--Apparatus and supplies)

GOMOZOV, I.M., kand. tekhn. nauk; TOTOLIN, P.Ye., kand. tekhn. nauk

Designing and testing the walking gear of the ESh-14/75. Stroi.
i dor. mashinostr. 4 no.11:8-12 N '59 (MIRA 13:3)
(Excavating machinery)

GOMOZOV, I. M., dotsent, kand. tekhn. nauk

Study of the track-laying equipment of heavy-duty excavators.
Sbor. trud. MISI no.39:222-230 '61. (MIRA 16:4)

1. Moskovskiy inzhenerno-stroitel'nyy institut imeni V. V.
Kuybysheva.

(Excavating machinery—Testing)

GOMOZOV, I.M., kand.tekhn.nauk

Studying the characteristics of EGL-15 and the EVG-15 excavators
under operating conditions. Gor.zhur. no.5:36-41 My '62.
(MIRA 16:1)

1. Moskovskiy inzhenerno-stroitel'nyy institut.
(Excavating machinery—Testing)

GOMOZOV, I.M., kand.tekhn.nauk

Studying the traction force of excavators in operation. Stroi.i
dor.mash. 7 no.10:12-15 0 '62. (MIRA 15:11)
(Excavating machinery)

GOMOZOV, L.I., inzhener; REYTBAT, V.L., inzhener; FILIPPOV, S.I., doktor
tekhnicheskikh nauk.

Using models for the study of processes in steel teeming equipment.
Sbor. Inst. stali no.35:201-211 '56. (MLBA 10:8)

1. Kafedra teorii metallurgicheskikh protsessov.
(Smelting--Equipment and supplies)
(Dimensional analysis)

GOMOZOV, L.I.

Theory of addition elements in heat-resistant alloys. Trudy Inst.met.
no.3:136-151 '58. (MIRA 12:3)

(Heat-resistant alloys--Metallurgy)
(Ions--Migration and velocity)

19(7): 25(1) PRAISE 1 BOOK EXPLANATION 80W/3135

Korovin, I. I. (Editor). *Corrosion and Protection of Steel: Collection of Articles*. Moscow, Mashin, 1979. 235 p. 7,000 copies printed.

Ed.: I. I. Korovin, Doctor of Chemical Sciences, Professor; Reviewers: A. A. Zhuravskiy, Doctor of Chemical Sciences, Professor, and K. S. Ponomarev, Doctor, Ed. of Publishing House: Ye. G. Alavridov; Tech. Ed.: E. M. Popov; Managing Ed.: for literature on Machine and Instrument Construction: E. V. Pukhovskiy, Engineer.

PURPOSE: This book is intended for scientific and technical personnel concerned with questions of the corrosion and protection of metals.

COVERAGE: The articles in this collection deal with the corrosion of steels in corrosive environments, investigation of the effect of various factors on corrosion, and methods of protecting steels from gas and electrochemical corrosion. Special attention is given to new methods of investigation. A number of the articles give the results of studies made under operating conditions. See data, obtained by the Department of Metal Corrosion.

1. *Moskovskiy Institut stali* (Moscow Institute of Steel), are published here for the first time. Four articles are the result of work conducted jointly at the laboratories of the Moskovskiy Metallurgicheskiy Zavod "Serp i Molot" (Moscow Metallurgical Plant "Serp i Molot") and the Khimicheskiy Zavod imeni M. I. Kalinina (Chemical Plant imeni M. I. Kalinina). Most of the articles contain practical recommendations on the protection of metals from corrosion. No personalities are mentioned. References follow each article.

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S/640/61/000/000/007/035
D258/D302

21,2100

AUTHORS: Ivanov, O. S. and Gomofov, L. I.

TITLE: The equilibrium diagram of the system uranium-zirconium-niobium; radial sections of the system

SOURCE: Akademiya nauk SSSR. Institut metallurgii. Stroyeniye splavov nekotorykh sistem s uranom i toriyem. Moscow, Gosatomizdat, 1961, 93-106

TEXT: The present work was aimed chiefly at determining the regions, in which γ -solid solutions may occur and at studying the stability of these solutions after being heat-treated up to 500°C. The investigation was based on the equilibrium diagrams of U-Zr and U-Nb presented by O. S. Ivanov (Refs. 5, 6: This publication, pp. 5, 20) and on that of Zr-Nb given by Rogers and Atkins (Ref. 7: Zirconium Columbium Diagram. J. Metals, 7, 9, 1034-1041 (Sept. 1955)). Specifically, alloys with a fixed atomic weight ratio of Zr to Nb, of 3:1, 1:1 and 1:3 were investigated with the aid of hardness tests, micrographs, and X-rays. The uranium-rich alloys
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The equilibrium diagram ...

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were melted in an induction furnace at 10^{-2} torr, while alloys with 35 at.-% and more of combined (Zr + Nb) were prepared in an arc furnace, in an atmosphere of purified argon. The products were homogenized for 48 hrs at 1250°C or for 72 hrs at 1025°C depending on their U-content. They were then forged at 1000 - 700°C into 6 - 7 mm thick rods, in order to determine their technological properties. The isothermal heat-treatment of previously furnace-cooled samples was applied for 1500 hrs at 500°C; 800 hrs at 550°C; 500 hrs at 600°C; 300 hrs at 650°C; 200 hrs at 700°C; 100 hrs at 800°C; 75 hrs at 900°C; and 50 hrs at 1000°C. The 1:1 Zr:Nb radial section was found to be representative of all the others and was, therefore, investigated in detail. Its polythermal diagram is given. At 630°C the 0.5% - 0.5% alloy has the structure of α -uranium; alloys containing up to 7 at.-% of additions possess a gradually diminishing martensitic structure; the latter ceases to exist at 8 at.-% of additions; this composition also shows the highest hardness. At subsequently higher percentages, the δ -solid solution becomes increasingly fixed and vanishes at 20 at.-%. An anomalous hardness maximum

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The equilibrium diagram ...

was observed at 35 at.-%. When heated at 530°C for 800 hrs the δ -solid solution starts to decompose at 55 at.-%; only one phase was observed at 60-80 at.-%; and a decomposition sets in at 90 at.-%. That was confirmed by X-ray patterns, which showed α - and δ -lines at up to 55 at.-%; δ -lines only within 60 - 70 at.-%; and both δ and α_{Zr} lines at 80 and 90 at.-% of additions. The $(\alpha + \delta)/\delta$ boundary was determined by annealing at gradually increasing temperatures, from 530 to 650°C. Adjoining to the lower side of this boundary, a metastable δ -region was found; the latter phase did not decompose even after heating for 1500 hrs. Alloys poor in uranium had to be heated first at 500°C (1500 hrs) in order to decompose the $(\alpha_{Zr} + \delta)$ phase. X-ray analyses discovered non-equilibrium δ -lines at up to 92.5 at.-%; δ and δ_{Nb} -lines at 95 at.-%; and δ_{Nb} -lines at 100 at.-% of additions. The phase diagram of the 3:1 radial section (3 at.-% Zr : 1 at.-% Nb) differs from the simple U-Zr diagram by the expansion of the δ -phase into the region of lower temperatures. The diagram is almost analogous to that of the 1:1 section. The 7.5% - 2.5% alloy presses a maximum hardness.

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The equilibrium diagram ...

The phase diagram of the 1:3 radial section shows a peculiarly broad stability region of the metastable δ -phase at below 590°C, which was confirmed by X-ray analysis of samples annealed for 1500 hrs at 500°C. Conclusions: The polythermal diagram of the tri-ple system shows, along all the radial sections investigated, an expansion of the δ -phase into the low-temperature region, when compared with the respective double systems. There are 12 figures and 10 references: 8 Soviet-bloc and 2 non-Soviet-bloc. The references to the English-language publications read as follows: H. H. Chiswick et al. Advances in the physical metallurgy of Uranium and its Alloys. Doklad no. 713, predstavleny na Vtoruyu mezhdunarodnuyu konferentsiyu po mirnomu ispol'zovaniyu atomnoy energii. Geneva 1958 (Paper no. 713, presented on the Second International Conference for the Peaceful Uses of Atomic Energy); B. Rogers and D. Atkins, Zirconium-Columbium Diagram, J. Metals, 7, 9, 1034-1041, Sept. 1955.

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33887

S/640/61/000/000/008/035
D258/D302

21.2100

AUTHORS: Ivanov, O. S. and Gomofov, L. I.

TITLE: The uranium-zirconium-niobium equilibrium diagram: Sections with a constant uranium content and a polythermal diagram of the system

SOURCE: Akademiya nauk SSSR. Institut metallurgii. Stroyeniye splavov nekotorykh sistem s uranom i toriyem. Moscow, Gosatomizdat, 1961, 107-127

TEXT: The authors aimed at completing the U-Zr-Nb equilibrium diagram. Previous work of the authors (Ref. 1: This publication, p.93) on the uranium based radial section failed to detect the separation of γ -solid solution into layers of $(\gamma + \gamma_{Zr})$ and $(\gamma + \gamma_{Nb})$. ✓

To achieve this, the authors prepared melts of constant U-content. The first section with 35 at.-% (Nb + Zr) passed through the critical separation point of the U-Zr system; the second section, with 50 at.-% (Nb + Zr) passed through the corresponding point of the

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The uranium-zirconium-niobium ...

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U-Nb system; the third section with 70 at.-% (Nb + Zr) passed through the δ_1 phase region of the U-Zr system. The composition, preparation and analysis of the individual alloys were described earlier. The samples were quenched from 1000°C and held afterwards for 1500 hrs at 500°C, in order to bring them nearer to equilibrium. The polythermal diagram of the first section is characterized by the quick wedging out of the $(\gamma + \delta_{Zr})$ and $(\gamma + \delta_{Nb})$ regions, caused by addition of either Zr or Nb and also by lowering the $(\alpha + \gamma)$ surface towards the middle part of the diagram. The slope of $\gamma/(\gamma + \delta_{Nb})$ was 2 times steeper than that of the $\gamma/(\gamma + \delta_{Zr})$ boundary, while the slope of the $\delta/(\alpha + \delta)$ boundary was less steep. The diagram of the second section exhibited the same peculiarities as the first and showed in addition a metastable δ -phase in the temperature range of 470 - 560°C and within the limits of 25 - 37 st.-% Nb (25 - 13 at.-% Zr). This phase did not decompose even after a heat-treatment of 1500 hrs. The diagram of the third section showed an almost temperature-independent δ_1 -phase within the limits

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of 0 - 2 at.-% Nb. This is followed by a triangular ($\delta_1 + \gamma$) region with the top at 620°C and stretching to within 22 at.-% Nb; a second triangle, of the ($\alpha + \gamma$) region with the top at 440°C is based within 25 and 36 at.-% Nb. The ($\alpha + \gamma$) region is separated from ($\delta_1 + \gamma$) by an intermediate phase ($\alpha + \alpha_{Zr} + \gamma$). The opposite corner of the diagram is occupied by an ($\alpha + \gamma$) region, stretching from 58 to 70 at.-% Nb, and topped at 650°C by a very small region of ($\alpha + \beta + \gamma$), ($\alpha + \gamma + \gamma_{Nb}$), ($\beta + \gamma$), ($\beta + \gamma + \gamma_{Nb}$), and ($\gamma + \gamma_{Nb}$), in that order. The different polythermal sections were projected on a concentration triangle. The resulting projection of the U-Zr-Nb equilibrium diagram is shown in a figure; its description is summarized as follows: (1) A continuous series of solid solutions is formed beyond 1000°C. It is believed that 13 monovariant and 3 non-variant equilibria (the latter at 685°, 645° and 430°) take place in the region below 700°C. (2) The stratification regions of ($\gamma + \gamma_{Zr}$), ($\gamma + \gamma_{Nb}$) and ($\gamma_{Zr} + \gamma_{Nb}$) are wedged out, on adding small amounts of the third component (2, 5, 12.5 and 21.5 at.-%

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respectively); this leads to the formation of a broad region of δ -solid solutions. (3) The initial separation of α -uranium from δ -solid solutions occupies a large part of the diagram's uranium corner; the site of this region diminishes towards the middle of the diagram, along with the decrease in temperature. (4) At temperatures below 600°C, the δ -solid solution borders a metastable δ -phase. (5) The solubility of niobium in the δ_1 phase is not higher than 2 at.-%. (6) The triple system contains only phases with crystal lattices, found in the constituent double systems. No new crystal lattices were detected. There are 16 figures and 3 references: 2 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: B. Rogers and D. Atkins, Zirconium-Columbium Diagram. J. Metals, 7, 9, 1034-1041 (Sept. 1955).

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S/137/62/000/008/027/065
A006/A101

AUTHORS: Ivanov, O. S., Gomofov, L. I.

TITLE: The phase diagram of uranium-zirconium-columbium. Sections with a constant content of uranium and a polythermic diagram of the system

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 8, 1962, 23, abstract 8I150
(In collection: "Stroyeniye splavov nekotorykh sistem s uranom i toriyem", Moscow, Gosatomizdat, 1961, 107 - 127)

TEXT: Microscopic and X-ray analyses were used to study U-Zr-Nb alloys with 35, 50 and 70 at. % (Zr+Nb), which are located along sections passing through the critical lamination point in U-Zr and U-Nb systems and through the δ_1 -phase range in the U-Zr system respectively. The alloys were quenched at 400 - 1,000°C. In the U-Zr-Nb system a continuous series of solid solutions is formed at a temperature $> 1,000^\circ\text{C}$. At 685, 645 and about 430°C, 13 monovariant and 3 non-variant equilibria are found. Lamination ranges ($\gamma + \gamma_{\text{Zr}}$), ($\gamma + \gamma_{\text{Nb}}$) and ($\gamma_{\text{Zr}} + \gamma_{\text{Nb}}$) are thinning-out in the cases when the content of the third component amounts to 2.5; 12.5 and 21.5 at. % respectively. The solubility of Nb in the δ_1 -phase does not

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exceed 2 at. %. In the U-Zr-Nb system there were no phases with crystal lattices differing from those of phases of binary systems U-Zr, U-Nb, and Zr-Nb.

Z. Rogachevskaya

[Abstracter's note: Complete translation]

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21.2100

AUTHORS: Gomozov, L. I. and Ivanov, O. S.

TITLE: Behavior of uranium-zirconium-niobium alloys on quenching and on thermal treatment

SOURCE: Akademiya nauk SSSR. Institut metallurgii. Stroyeniye splavov nekotorykh sistem s uranom i toriyem. Moscow, Gosatomizdat, 1961, 128-140

TEXT: The authors studied the behavior of U-Zr-Nb alloys in order to establish the course of transformation of the δ -phase occurring as a result of the following treatments: (1) Quenching from 1000°C; (2) quenching from 1000°C, followed by heat-treatment (3 hrs for a time at 400°, 450°, 500° and 550°C, in that order; then 10, 25 and 100 hrs at the latter temperature). X-ray results from the first treatment were supplemented by earlier hardness data, of O. S. Ivanov and coworkers (Refs. 1 to 4: This publication, pp. 93, 107, 5 and 20 respectively). The results obtained from X-ray analyses are presented in the form of equal parameter curves on a triangular

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diagram. The hardness data obtained for the heat-treated alloys are presented in a similar way. The first treatment resulted in the detection of the following phases: α' , a supersaturated solid solution based on α -uranium; δ' , a solid solution of U, Zr, and Nb, with a tetragonal lattice; γ , the initial three-component solid solution, with a cubical structure; α'_{Zr} , a supersaturated solid solution, based on α -Zr; ω , a metastable, Zr-based phase with a hexagonal lattice; and the intermediates $(\alpha' + \gamma)$, $(\alpha' + \delta')$, $(\alpha'_{Zr} + \omega)$ and $(\omega + \gamma)$ (B). The slope of the region boundaries towards the U-Zr side is interpreted as a somewhat increased depressing effect of combined Zr and Nb on the martensitic transformations. The wedging-out region of the δ' -phase is somewhat displaced towards the Zr corner. The marked displacement of the fixed γ -phase towards the Nb corner, as detected by hardness tests, is probably caused by a martensitic transformation occurring during these tests. The equal-parameter lines of the γ -phase in the triple system at rela-

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tively low U-contents (30-50 at.-%) show a slightly negative deviation from additivity; this is compared with the corresponding positive deviation, observed in the constituent double systems. The results of the second treatment show that the decomposition products of triple alloys containing 5 - 20 at.-% of additions, proceeds at a markedly lower rate of coagulation than the one observed in double alloys. Also, there is almost no change in the hardness of regions adjoining the γ -phase, the latter being stable at 500°C. There are 10 figures and 9 Soviet-bloc references.

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IVANOV, O.S., doktor khim.nauk; TSEYTLIN, V.Z., kand.tekhn.nauk;
GOMOZOV, L.I., kand.tekhn.nauk; LARIONOV, V.V., inzh.

Hardness of niobium-molybdenum alloys at temperatures up to
1600°. Metalloved. i term. obr. met. no.7:4-7 JI '62. (MIRA 15:6)

1. Institut metallurgii im. A.A. Baykova i Moskovskiy
vecherniy mashinostroitel'nyy institut.
(Niobium-molybdenum alloys—Testing)
(Metals at high temperatures)

GOMOZOV, L. I.

TITLE: IV All-Union Conference on Physico-chemical Analysis

PERIODICAL: Atomnaya energiya, v. 10, no. 4, 1961, 406-407

TEXT: The IV Vsesoyuznoye soveshchaniye po fiziko-khimicheskoy analizu (IV All-Union Conference on Physico-chemical Analysis), convened by the Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova AN SSSR (Institute of General and Inorganic Chemistry imeni N. S. Kurnakov, AS USSR) and the Institut metallurgii im. A. A. Baykova AN SSSR (Institute of Metallurgy imeni A. A. Baykov, AS USSR), was held from December 6 to 10, 1960 on the occasion of the 100th anniversary of the birthday of N. S. Kurnakov. Part of the 142 reports made at the Conference dealt with problems of the atomic industry, including reports on the physico-chemical analysis of thorium, uranium, plutonium, and their alloys, as well as of zirconium and beryllium (O. S. Ivanov); "radiation phenomena and new problems of physico-chemical analysis" (V. I. Spitsyn); structure and constitution diagrams of the ternary systems thorium - zirconium - uranium (G. K. Alekseyenko and T. A. Badayeva), uranium - molybdenum - zirconium (G. N. Bagrov), uranium - zirconium - niobium (L. I. Gomozya), uranium - niobium - molybdenum (G. I. Terekhov); and physico-chemical analysis of metallic system with rare metals (Ye. M. Savitskiy). V. F. Terekhova reported experimental and theoretical data on rare-earth alloys and presented new constitution diagrams of alloys of yttrium, neodymium, and gadolinium with magnesium, of yttrium and neodymium with aluminum, and of gadolinium with iron and nickel; furthermore, she described the properties of the latter. M. A. Tytkina held a report on tests of alloys of rhenium, tantalum, and tungsten, and also on reactions between these alloys and elements of the 4th, 5th, 6th, 7th, and 8th group.